

SAFETY DEVICE FOR AN ELECTRICAL OUTLET

BACKGROUND OF THE INVENTION

Field of the Invention

The instant invention relates generally to electrical outlet guard covers and more specifically it relates to a safety device for an electrical outlet. The safety device for an electrical outlet will replace an existing cover plate of the electrical outlet, so as to cover the hazardous slots of the receptacle and yet appear very similar to the electrical outlet. An adult will have easy access to the receptacle, but it would be difficult for a child to gain access to the receptacle. This will help prevent the child from plugging in appliances that are dangerous to use, such as an electric knife, a can opener or a microwave oven, to name a few.

Description of the Prior Art

Numerous electrical outlet guard covers have been provided in prior art. For example, U.S. patents numbered 3,068,442 to Kubik et al.; 5,107,075 to Currier, Jr.; 5,563,373 to Doroslovac; 5,571,995 to Pierce and 5,675,126 to Halvorsen all are illustrative of such prior art. While these units may be suitable for the particular purpose to which they address, they would not be as suitable for the purposes of the present invention as heretofore described.

KUBIK, JOHN T.

KUBIK, STANLEY

SAFETY GUARD FOR WALL SOCKETS

U.S. Patent Number 3,068,442

A safety guard for electrical wall sockets comprising a box-like enclosure dimensioned to fit over the face plate of a wall socket of the type having a pair of vertically aligned sockets. The enclosure has a front wall extending parallel to and spaced outwardly from the face plate. The front wall has a pair of socket openings aligned with the sockets. A slide member is mounted for sliding vertical movement within the enclosure. The slide member has a pair of elongated arms extending vertically adjacent to the sides of the enclosure. The slide member has a pair of shorter arms spaced inwardly from the elongated arms. The space between the arms form a pair of elongated vertically directed slots. An upper bar is normally disposed in

overlying relationship to the upper of the socket openings. The upper edge of the upper bar engages the lower ends of the shorter arms. The upper bar has a pair of horizontally directed bosses extending outwardly along its lower edge. A pair of studs extend from the front wall of the enclosure toward the face plate within the slots. A pair of normally contracted coil springs are mounted within the slots. The springs extend between the studs and bosses. A lower bar is normally disposed in overlying relationship to the lower of the socket openings. The upper edge of the lower bar engages the lower ends of the elongated arms. A second pair of studs extend from the front wall toward the face plate. The lower bar has a pair of slots adjacent its ends. A pair of normally contracted coil springs are mounted within the slots. The springs extend between the second pair of studs and the lower bar. There being free areas above each of the bars. The slide member is movable downwardly to move the bars away from the socket openings and bring the free areas into alignment with the socket openings. Each of the bars upon the release of the slide member is held in a downward position if a plug is inserted in its socket opening and is free for independent return movement to its normal position by the urging of the springs if no plug is inserted in its opening.

CURRIER, JR., DONALD J.

SLIDABLE SAFETY COVER FOR ELECTRICAL OUTLETS

U.S. Patent Number 5,107,075

An improved slidable safety cover for use with electrical outlets is disclosed in which at least one slidable cover member is movably mounted on an apertured stationary frame overlaying an electrical outlet. The slidable cover member is movable between an open position at which access to underlying electrical outlets is available through the slidable safety cover and a closed position at which access to the electrical outlets is blocked by the slidable cover member. Movement of the slidable cover member from the closed position to the open position requires release of a locking mechanism comprising at least one resilient finger latch member having a first end portion anchored to the stationary frame and a second end portion partially protruding through the slidable cover member. A finger latch opening is provided in the slidable cover member and is located distal from all sides of the safety cover slidable cover member.

DOROSLOVAC, SLOBODAN

SAFETY SHIELD FOR ELECTRICAL OUTLET

U.S. Patent Number 5,563,373

A safety device replaces the cover plate of a wall-mounted electrical outlet box having a pair of female receptacles for receiving a male plug. The safety device has a face plate, a back plate, a pair of shutters and a biasing means. The face plate has two large apertures in it, corresponding to the two female receptacles and exposing the receptacles when the face plate is positioned atop the outlet box and secured to it. The back plate has an inner surface and an outer surface and an aperture, which is shaped and positioned to correspond to the pair of female receptacles. When the front plate and back plate are mated, the front plate and the back plate are joined with the back face of the front plate, the inner surface of the back plate and a pair of parallel flanges on the back face defining a channel.

First and second shutters, corresponding to each of the large apertures on the face plate, cover the apertures. Each shutter is an imperforate shield member with an arm extending from each side and is positioned slidably within the channel, so as to obstruct the corresponding large aperture completely when in a first position and to provide access to a male plug through the large aperture when in a second position. The shutters are biased into the closed first position by a biasing means, preferably a pair of rubber bands.

HALVORSEN, GARY

OUTLET COVER

U.S. Patent Number 5,675,126

An outlet cover, for an electrical outlet, that is attachable over the electrical outlet itself or a face plate thereof. The outlet cover has a plate member with apertures for permitting access to sockets of the electrical outlet. Hinged doors swing to allow access to the sockets and to cover the sockets. A latch mechanism latches the doors shut over the sockets to eliminate an electrical shock hazard potential to children. The doors may be opened via an opening in a side surface of the outlet cover so positioned to be inconspicuous. The opening provides clearance for a prong, of an electrical plug, to be inserted therein to release the latch mechanism. Alternatively, a slot may be

provided in the side surface to accept a human nail, a pencil point, or a pin that may be used to release the latch, either along or in conjunction with a further mechanism for acting on the latch mechanism. An embodiment of the invention has the doors configured to lie flush with a face surface of the outlet cover.

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PIERCE, DAVID B.

LOCKING SAFETY COVER FOR ELECTRICAL OUTLETS

U.S. Patent Number 5,571,995

A safety cover for electrical outlets includes a center locking block which is attached to an electrical outlet by a screw, and which has grooves to receive elongate members integral with individual receptacle covers. Matching cross-sectional shapes of the grooves and members fit closely so that elongate members are retained in the grooves. A flexible latching arm on the front of a receptacle cover engages the locking block to latch the cover in place. The latching arm is pressed aside with a fingertip to permit removal of the receptacle cover. One of the covers has prongs which engage openings in the receptacle to prevent the safety cover assembly from being rotated around the mounting screw.

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SUMMARY OF THE INVENTION

A primary object of the present invention is to provide a safety device for an electrical outlet that will overcome the shortcomings of the prior art devices.

Another object is to provide a safety device for an electrical outlet that will replace an existing cover plate of the electrical outlet, so as to cover the hazardous slots of the receptacle and yet appear very similar to the electrical outlet.

An additional object is to provide a safety device for an electrical outlet in which an adult will have easy access to the receptacle, but would be difficult for a child to gain access to the receptacle, so as to help prevent the child from plugging in appliances that are dangerous to use, such as an electric knife, a can opener of a microwave oven, to name a few.

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A further object is to provide a safety device for an electrical outlet that is simple and easy to use.

A still further object is to provide a safety device for an electrical outlet that is economical in cost to manufacture.

Further objects of the invention will appear as the description proceeds.

To the accomplishment of the above and related objects, this invention may be embodied in the form illustrated in the accompanying drawings, attention being called to the fact, however, that the drawings are illustrative only, and that changes may be made in the specific construction illustrated and described within the scope of the appended claims.

BRIEF DESCRIPTION OF THE DRAWING FIGURES

Various other objects, features and attendant advantages of the present invention will become more fully appreciated as the same becomes better understood when considered in conjunction with the accompanying drawings, in which like reference characters designate the same or similar parts throughout the several views, and wherein;

FIGURE 1 is an exploded front perspective view of the present invention ready to be installed over a receptacle in an electrical outlet.

FIGURE 2 is a front elevational view of the front cover plate taken in the direction of arrow 2 in Figure 1.

FIGURE 3 is a rear elevational view of the front cover plate taken in the direction of arrow 3 in Figure 1.

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FIGURE 4 is a side elevational view of the front cover plate taken in the direction of arrow 4 in Figure 1.

FIGURE 5 is a front perspective view of the front cover plate.

FIGURE 6 is a front elevational view of the shields taken in the direction of arrow 6 in Figure 1.

FIGURE 7 is a rear elevational view of the two shields taken in the direction of arrow 7 in Figure 1.

FIGURE 8 is a side elevational view of the two shields taken in the direction of arrow 8 in Figure 1.

FIGURE 9 is a front perspective view of the two shields.

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FIGURE 10 is a front elevational view of the back cover plate taken in the direction of arrow 10 in Figure 1.

FIGURE 11 is a rear elevational view of the back cover plate taken in the direction of arrow 11 in Figure 1.

FIGURE 12 is a side elevational view of the back cover plate taken in the direction of arrow 12 in Figure 1.

FIGURE 13 is a front perspective view of the back cover plate.

Similar reference characters denote corresponding features consistently throughout the attached drawings.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Turning now descriptively to the drawings, in which similar reference characters denote similar elements throughout the several views, Figures 1 through 13 illustrate the present invention being a safety device 14. With regard to the reference numerals used, the following numbering is used throughout the various drawing figures.

14 safety device

16 electrical outlet

18 outlet box of 16 in 20

20 wall

- 22 receptacle of 16 in 18
- 24 upper socket of 22
- 26 lower socket of 22
- 28 central threaded opening in 22
- 30 cover plate screw
- 32 back cover plate of 14
- 34 upper aperture in 32
- 36 lower aperture in 32

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- 38 central hole in 32
- 40 upper shield of 14
- 42 lower shield of 14
- 44 guiding structure of 14
- 46 front face of 32
- 48 biasing components of 14
- 50 front cover plate of 14
- 52 upper aperture in 50

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- 54 lower aperture in 50
- 56 central hole in 50
- 58 mating elements of 14
- 60 upper shield engaging facility of 14
- 62 lower shield engaging facility of 14
- 64 shields locking components
- 66 shields releasing elements
- 68 shields retaining structures

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70 T-shaped slide panel for 40, 42

72 tab of 70

74 main flat body of 70

76 leg of 70

78 H-shaped cross member of 44

80 guide rail of 44

82 stud of 48

84 spring of 48

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86 small socket of 58

88 locking tab of 58

90 rear face of 50

92 depression in 40

94 front face of 40

96 vertical slot in 50

98 depression in 42

100 front face of 42

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- 102 vertical slot in 50
- 104 hook end of 64 on 76
- 106 raised protrusion of 64 on 90
- 108 L-shaped tab of 66
- 110 first U-shaped tab of 68
- 112 second U-shaped tap of 68
- 114 horizontal depression in 40 of 68
- 116 horizontal depression in 42 of 68

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The safety device 14 is for an electrical outlet 16 of the type that includes an outlet box 18 in a wall 20 for maintaining a receptacle 22 having vertically aligned dual sockets 24, 26 and a central threaded opening 28 between the sockets 24, 26 for receiving a cover plate screw 30. The safety device 14 comprises a back cover plate 32, having a pair of vertically aligned apertures 34, 36 therethrough with a central hole 38 between the apertures 34, 36. The apertures 34, 36 are shaped and positioned to correspond to the dual sockets 24, 26. The central hole 38 is aligned with the central threaded opening 28 of the receptacle 22 in the outlet box 18, when the back cover plate 32 is positioned over the outlet box 18. A pair of shields 40, 42 are sized to obstruct the apertures 34, 36 in the back cover plate 32, to prevent access to the dual sockets 24, 26 of the receptacle 22.

A structure 44 on a front face 46 of the back cover plate 32 is for guiding the upper shield 40 to move upwardly away from the upper aperture 34 in the back cover plate 32

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and the lower shield 42 to move downwardly away from the lower aperture 36 in the back cover plate 32. Components 48 are for biasing the shields 40, 42 on the front face 46 of the back cover plate 32, so as to normally position the shields 40, 42 to obstruct the apertures 34, 36 in the back cover plate 32. A front cover plate 50 has a pair of vertically aligned apertures 52, 54 therethrough with a central hole 56 between the apertures 52, 54. The apertures 52, 54 are shaped and positioned to correspond to the dual sockets 24, 26 while the central hole 56 is aligned with the central threaded opening 28 of the receptacle 22 in the outlet box 18. Elements 58 are for mating the front cover plate 50 to the back cover plate screw 32 over the shields 40, 42, so that the cover plate screw 30 can engage with the central threaded opening 28 in the receptacle 22, to hold the safety device 14 thereto.

A facility 60 is provided, for engaging the upper shield 40 through the upper aperture 52 in the front cover plate 50, so that the upper shield 40 can move upwardly away from the upper aperture 34 in the back cover plate 32, to

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expose the upper socket 24 of the receptacle 22. A facility 62 is also provided, for engaging the lower shield 42 through the lower aperture 54 in the front cover plate 50, so that the lower shield 42 can move downwardly away from the lower aperture 36 in the back cover plate 32, to expose the lower socket 26 of the receptacle 22.

The safety device 14 for the electrical outlet 16 further includes components 64 on the front cover plate 50, for locking each of the shields 40, 42 in the normally obstructing positions. Elements 66 on the front cover plate 50 are for releasing each of the shields 40, 42 from the normally obstructing positions. Structures 68 on the front cover plate 50 are for retaining each of the shields 40, 42 away from the sockets 24, 26 of the receptacle 22, so that an electrical plug (not shown) can engage with each of the sockets 24, 26 of the receptacle 22. Each shield 40, 42 is a T-shaped slide panel 70, having a pair of outwardly extending tabs 72 and a main flat body 74 with a pair of integral parallel legs 76, in which each leg 76 extends from one tab 72 adjacent the main flat body 74.

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The guiding structure 44 consists of an H-shaped cross member 78 integrally formed centrally on the front face 46 of the back cover plate 32. A pair of vertically spaced apart side guide rails 80 are integrally formed on the front face 46 of the back cover plate 32 on opposite sides of the H-shaped cross member 78. The biasing components 48 include two studs 82 integrally formed on the front face 46 of the back cover plate 32. Four springs 84 are provided. Two springs 84 are connected between the upper shield 40 and the two studs 82, while other two springs 84 are connected between the lower shield 42 and the two studs 82.

The mating elements 58 are four small sockets 86 integrally formed on the front face 46 of the back cover plate 32 at the corners thereof. Four locking tabs 88 are integrally formed on a rear face 90 of the front cover plate 50 at the corners thereof, so that the locking tabs 88 can engage with the small sockets 86.

The upper shield engaging facility 60 includes the upper shield 40 having three depressions 92 in a front face

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94 thereof simulating a hot slot, neutral slot and ground slot of the upper socket 24 of the receptacle 22, for engagement by the hot blade, neutral blade and ground prong of an electrical plug. The front cover plate 50 has three vertical slots 96 extending upwardly from the upper aperture 52 and in alignment with the three depressions 92 in the upper shield 40, to allow the electrical plug to raise the upper shield 40 to its uppermost position.

The lower shield engaging facility 62 consists of the lower shield 42 having three depressions 98 in a front face 100 thereof simulating a hot slot, neutral slot and ground slot of the lower socket 26 of the receptacle 22, for engagement by the hot blade, neutral blade and ground prong of an electrical plug. The front cover plate 50 has three vertical slots 102 extending downwardly from the lower aperture 54 and in alignment with the three depressions 98 in the lower shield 42, to allow the electrical plug to lower the lower shield 42 to its lowermost position.

The shields locking components 64 comprises the legs 76 of the shields 40, 42 having hook ends 104. Four

sets of two raised protrusions 106 are integrally formed on the rear face 90 of the front cover plate 50 above and below the apertures 52, 54 which engages with the hook ends 104.

The shields releasing structures 66 include the front cover plate 50 having four L-shaped tabs 108 cut therethrough above and below the apertures 52, 54. Each L-shaped tab 108 is in front of the two raised protrusions 106. When two of the L-shaped tabs 108 above and below the apertures 52, 54 are simultaneously manually depressed inwardly, the two hook ends 104 of the two legs 76 of one shield 40 or 42 will disengage from the raised protrusions 106. The shield 40 or 42 can be moved away from the respective aperture 52 or 54 in the front cover plate 50 and the respective aperture 34 or 36 in the back cover plate 32 by an electrical plug, to expose the respective sockets 24 or 26 of the receptacle 22.

The shields retaining structures 68 include the front cover plate 50 having two U-shaped tabs 110, 112 cut therethrough. The first U-shaped tab 110 is located

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centrally adjacent a top edge and the second U-shaped tab 112 is located centrally adjacent a bottom edge. The upper shield 40 has a horizontal depression 114 in the front face 94 at a top end. The lower shield 42 has a horizontal depression 116 in the front face 100 at a bottom end. When the upper shield 40 is moved to its uppermost position, the first U-shaped tab 110 can be manually depressed into the horizontal depression 114 of the upper shield 40, to keep the upper shield 40 raised. When the lower shield 42 is moved to its lowermost position, the second U-shaped tab 112 can be manually depressed into the horizontal depression 116 of the lower shield 42, to keep the lower shield 42 lowered.

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It will be understood that each of the elements described above, or two or more together may also find a useful application in other types of methods differing from the type described above.

While certain novel features of this invention have been shown and described are pointed out in the annexed claims, it is not intended to be limited to the details above, since it will be understood that various omissions, modifications, substitutions and changes in the forms and details of the device illustrated and in its operation can be made by those skilled in the art without departing in any way from the spirit of the present invention.

Without further analysis, the foregoing will so fully reveal the gist of the present invention that others can, by applying current knowledge, readily adapt it for various applications without omitting features that, from the standpoint of prior art, fairly constitute essential characteristics of the generic or specific aspects of this invention.